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Ser Thr Cys Ile Arg Phe Val Thr Tyr Gln Asp Gln Arg Asp Phe Ile
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Ser Ile Ile Pro Met Tyr Gly
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<211>   61
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Cys Phe Ser Ser Val Gly Arg Ser Gly Gly Met Gln Val Val Ser Leu
1   5   10   15

Ala Pro Thr Cys Leu Gln Lys Gly Arg Gly Ile Val Leu His Glu Leu
            20   25   30

Met His Val Leu Gly Phe Trp His Glu His Thr Arg Ala Asp Arg Asp
        35   40   45

Arg Tyr Ile Arg Val Asn Trp Asn Glu Ile Leu Pro Gly
    50   55   60

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<213>   Homo sapiens

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cctctgtgat gcactatggg ag   82

<210>   8
<211>   27
<212>   PRT
<213>   Homo sapiens

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Tyr Asp Tyr Ser Ser Val Met His Tyr Gly Arg

20   25

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<212>   DNA
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1   5   10   15

Pro Ser Val His Ile Gly Gln Arg Trp Asn Leu Ser Ala Ser Asp Ile
            20   25   30

Thr Arg Val Leu Lys Leu Tyr Gly Cys Ser Pro Ser Gly Pro Arg Pro
        35   40   45

Arg Gly Arg Gly
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<210>   12
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<213>   Homo sapiens

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Ser His Ala His Ser Thr Gly Arg Ser Pro Ala Pro Ala Ser Leu Ser
1   5   10   15

Leu Gln Arg Leu Leu Glu Ala Leu Ser Ala Glu Ser Arg Ser Pro Asp
            20   25   30

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Pro Ser Gly Ser Ser Ala Gly Gly Gln Pro Val Pro Ala Gly Pro Gly
        35              40              45

Glu Ser Pro His Gly Trp Glu Ser Pro Ala Leu Lys Lys Leu Ser Ala
    50              55              60

Glu Ala Ser Ala Arg Gln Pro Gln Thr Leu Ala Ser Ser Pro Arg Ser
65              70              75              80

Arg Pro Gly Ala Gly Ala Pro Gly Val Ala Gln Glu Gln Ser Trp Leu
            85              90              95

Ala Gly Val Ser Thr Lys Pro Thr Val Pro Ser Ser Glu Ala Gly Ile
            100             105             110

Gln Pro Val Pro Val Gln Gly Ser Pro Ala Leu Pro Gly Gly Cys Val
        115             120             125

Pro Arg Asn His Phe Lys Gly Met Ser Glu Asp
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gtcacctatc aggaccagag agacttcatt tccatcatcc ccatgtatgg gtgcttctcg  180
agtgtggggc gcagtggagg gatgcaggtg gtctccctgg cgcccacgtg tctccagaag  240
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cgggccgacc gggaccgcta tatccgtgtc aactggaacg agatcctgcc aggctttgaa  360
atcaacttca tcaagtctca gagcagcaac atgctgacgc cctatgacta ctcctctgtg  420
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gcccccagtg tccacatcgg ccagcgatgg aacctgagtg cctcggacat cacccgggtc  540
ctcaaactct acggctgcag cccaagtggc cccaggcccc gtgggagagg gtcccatgcc  600
cacagcactg gtaggagccc cgccccggcc tccctatctc tgcagcggct tttggaggca  660
ctgtcggcgg aatccaggag ccccgacccc agtggttcca gtgcgggagg ccagcccgtt  720
cctgcagggc ctggggagag cccacatggg tgggagtccc ctgccctgaa aaagctcagt  780
gcagaggcct cggcaaggca gcctcagacc ctagcttcct ccccaagatc aaggcctgga  840
gcaggtgccc ccggtgttgc tcaggagcag tcctggctgg ccggagtgtc caccaagccc  900
acagtcccat cttcagaagc aggaatccag ccagtccctg tccagggaag cccagctctg  960
ccagggggct gtgtacctag aaatcatttc aaggggatgt ccgaagat             1008

<210>  14
<211>  336
<212>  PRT
<213>  Homo sapiens

<400>  14
Met Gly Gly Ser Gly Val Val Glu Val Pro Phe Leu Leu Ser Ser Lys
1               5               10              15
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Tyr Asp Glu Pro Ser Arg Gln Val Ile Leu Glu Ala Leu Ala Glu Phe
        20              25              30

Glu Arg Ser Thr Cys Ile Arg Phe Val Thr Tyr Gln Asp Gln Arg Asp
        35              40              45

Phe Ile Ser Ile Ile Pro Met Tyr Gly Cys Phe Ser Ser Val Gly Arg
    50              55              60

Ser Gly Gly Met Gln Val Val Ser Leu Ala Pro Thr Cys Leu Gln Lys
65              70              75                          80

Gly Arg Gly Ile Val Leu His Glu Leu Met His Val Leu Gly Phe Trp
            85              90              95

His Glu His Thr Arg Ala Asp Arg Asp Arg Tyr Ile Arg Val Asn Trp
        100             105             110

Asn Glu Ile Leu Pro Gly Phe Glu Ile Asn Phe Ile Lys Ser Gln Ser
        115             120             125

Ser Asn Met Leu Thr Pro Tyr Asp Tyr Ser Ser Val Met His Tyr Gly
    130             135             140

Arg Leu Ala Phe Ser Arg Arg Gly Leu Pro Thr Ile Thr Pro Leu Trp
145             150             155             160

Ala Pro Ser Val His Ile Gly Gln Arg Trp Asn Leu Ser Ala Ser Asp
            165             170             175

Ile Thr Arg Val Leu Lys Leu Tyr Gly Cys Ser Pro Ser Gly Pro Arg
        180             185             190

Pro Arg Gly Arg Gly Ser His Ala His Ser Thr Gly Arg Ser Pro Ala
        195             200             205

Pro Ala Ser Leu Ser Leu Gln Arg Leu Leu Glu Ala Leu Ser Ala Glu
    210             215             220

Ser Arg Ser Pro Asp Pro Ser Gly Ser Ser Ala Gly Gly Gln Pro Val
225             230             235             240

Pro Ala Gly Pro Gly Glu Ser Pro His Gly Trp Glu Ser Pro Ala Leu
            245             250             255

Lys Lys Leu Ser Ala Glu Ala Ser Ala Arg Gln Pro Gln Thr Leu Ala
            260             265             270

Ser Ser Pro Arg Ser Arg Pro Gly Ala Gly Ala Pro Gly Val Ala Gln
        275             280             285

Glu Gln Ser Trp Leu Ala Gly Val Ser Thr Lys Pro Thr Val Pro Ser
    290             295             300

Ser Glu Ala Gly Ile Gln Pro Val Pro Val Gln Gly Ser Pro Ala Leu
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305   310   315   320

Pro Gly Gly Cys Val Pro Arg Asn His Phe Lys Gly Met Ser Glu Asp
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<212>   DNA
<213>   Homo sapiens

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<210>   16
<211>   19
<212>   PRT
<213>   Homo sapiens

<400>   16
Met Glu Gly Val Gly Gly Leu Trp Pro Trp Val Leu Gly Leu Leu Ser
1   5   10   15

Leu Pro Gly

<210>   17
<211>   126
<212>   DNA
<213>   Homo sapiens

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accaag   126

<210>   18
<211>   42
<212>   PRT
<213>   Homo sapiens

<400>   18
Val Ile Leu Gly Ala Pro Leu Ala Ser Ser Cys Ala Gly Ala Cys Gly
1   5   10   15

Thr Ser Phe Pro Asp Gly Leu Thr Pro Glu Gly Thr Gln Ala Ser Gly
                20   25   30

Asp Lys Asp Ile Pro Ala Ile Asn Gln Gly
                35   40

<210>   19
<211>   62
<212>   DNA
<213>   Homo sapiens

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cg   62

<210>   20
<211>   20
<212>   PRT
<213>   Homo sapiens

<400>   20
Leu Ile Leu Glu Glu Thr Pro Glu Ser Ser Phe Leu Ile Glu Gly Asp
1   5   10   15

Ile Ile Arg Pro
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<210>   21
<211>   94
<212>   DNA
<213>   Homo sapiens

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gtggaggtcc ccttcctgct ctccagcaag tacg   94

<210>   22
<211>   32
<212>   PRT
<213>   Homo sapiens

<400>   22
Ser Pro Phe Arg Leu Leu Ser Ala Thr Ser Asn Lys Trp Pro Met Gly
1   5   10   15

Gly Ser Gly Val Val Glu Val Pro Phe Leu Leu Ser Ser Lys Tyr Asp
            20   25   30

<210>   23
<211>   118
<212>   DNA
<213>   Homo sapiens

<400>   23
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tcaggtttgt cacctatcag gaccagagag acttcatttc catcatcccc atgtatgg   118

<210>   24
<211>   39
<212>   PRT
<213>   Homo sapiens

<400>   24
Glu Pro Ser Arg Gln Val Ile Leu Glu Ala Leu Ala Glu Phe Glu Arg

```
1                5                    10                    15
```

Ser Thr Cys Ile Arg Phe Val Thr Tyr Gln Asp Gln Arg Asp Phe Ile
            20   25   30

Ser Ile Ile Pro Met Tyr Gly
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```
<210>   25
<211>   182
<212>   DNA
<213>   Homo sapiens
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cgagcacacg cgggccgacc gggaccgcta tatccgtgtc aactggaacg agatcctgcc   180
ag                                                                 182
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```
<210>   26
<211>   61
<212>   PRT
<213>   Homo sapiens
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```
<400>   26
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Cys Phe Ser Ser Val Gly Arg Ser Gly Gly Met Gln Val Val Ser Leu
1   5   10   15

Ala Pro Thr Cys Leu Gln Lys Gly Arg Gly Ile Val Leu His Glu Leu
            20   25   30

Met His Val Leu Gly Phe Trp His Glu His Thr Arg Ala Asp Arg Asp
            35   40   45

Arg Tyr Ile Arg Val Asn Trp Asn Glu Ile Leu Pro Gly
        50   55   60

```
<210>   27
<211>   82
<212>   DNA
<213>   Homo sapiens
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<400>   27
gctttgaaat caacttcatc aagtctcgga gcagcaacat gctgacgccc tatgactact    60
cctctgtgat gcactatggg ag                                            82
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```
<210>   28
<211>   27
<212>   PRT
<213>   Homo sapiens
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```
<400>   28
```
Phe Glu Ile Asn Phe Ile Lys Ser Arg Ser Ser Asn Met Leu Thr Pro
1   5   10   15

```
Tyr Asp Tyr Ser Ser Val Met His Tyr Gly Arg
            20                  25
```

<210>   29
<211>   155
<212>   DNA
<213>   Homo sapiens

<400>   29

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gctcgccttc agccggcgtg ggctgcccac catcacacca ctttgggccc ccagtgtcca    60
catcggccag cgatggaacc tgagtgcctc ggacatcacc cgggtcctca aactctacgg    120
ctgcagccca agtggccaca ggccccgtgg gagag                               155
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<210>   30
<211>   52
<212>   PRT
<213>   Homo sapiens

<400>   30

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Leu Ala Phe Ser Arg Arg Gly Leu Pro Thr Ile Thr Pro Leu Trp Ala
1               5                   10                  15

Pro Ser Val His Ile Gly Gln Arg Trp Asn Leu Ser Ala Ser Asp Ile
            20                  25                  30

Thr Arg Val Leu Lys Leu Tyr Gly Cys Ser Pro Ser Gly Pro Arg Pro
            35                  40                  45

Arg Gly Arg Gly
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<210>   31
<211>   419
<212>   DNA
<213>   Homo sapiens ·

<400>   31

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ccaccaagcc cacagtccca tcttcagaag caggaatcca gccagtccct gtccagggaa    360
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<210>   32
<211>   139
<212>   PRT
<213>   Homo sapiens

<400>   32

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Ser His Ala His Ser Thr Gly Arg Ser Pro Ala Pro Ala Ser Leu Ser
1               5                   10                  15

Leu Gln Arg Leu Leu Glu Ala Leu Ser Ala Glu Ser Arg Ser Pro Asp
```

```
           20                    25                    30
```

Pro Ser Gly Ser Ser Ala Gly Gly Gln Pro Val Pro Ala Gly Pro Gly
        35   40   45

Glu Ser Pro His Gly Trp Glu Ser Pro Ala Leu Lys Lys Leu Ser Ala
    50   55   60

Glu Ala Ser Ala Arg Gln Pro Gln Thr Leu Ala Ser Ser Pro Arg Ser
65   70   75   80

Arg Pro Gly Ala Gly Ala Pro Gly Val Ala Gln Glu Gln Ser Trp Leu
            85   90   95

Ala Gly Val Ser Thr Lys Pro Thr Val Pro Ser Ser Glu Ala Gly Ile
            100   105   110

Gln Pro Val Pro Val Gln Gly Ser Pro Ala Leu Pro Gly Gly Cys Val
        115   120   125

Pro Arg Asn His Phe Lys Gly Met Ser Glu Asp
        130   135

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<211>    1293
<212>    DNA
<213>    Homo sapiens

<400>    33
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ggcctcaccc ctgagggaac ccaggcctcc ggggacaagg acattcctgc aattaaccaa   180
gggctcatcc tggaagaaac cccagagagc agcttcctca tcgaggggga catcatccgg   240
ccgagtccct tccgactgct gtcagcaacc agcaacaaat ggcccatggg tggtagtggt   300
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<210>    34
<211>    431
<212>    PRT
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<213>   Homo sapiens

<400>   34
Met Glu Gly Val Gly Gly Leu Trp Pro Trp Val Leu Gly Leu Leu Ser
1   5   10   15

Leu Pro Gly Val Ile Leu Gly Ala Pro Leu Ala Ser Ser Cys Ala Gly
            20   25   30

Ala Cys Gly Thr Ser Phe Pro Asp Gly Leu Thr Pro Glu Gly Thr Gln
            35   40   45

Ala Ser Gly Asp Lys Asp Ile Pro Ala Ile Asn Gln Gly Leu Ile Leu
    50   55   60

Glu Glu Thr Pro Glu Ser Ser Phe Leu Ile Glu Gly Asp Ile Ile Arg
65   70   75   80

Pro Ser Pro Phe Arg Leu Leu Ser Ala Thr Ser Asn Lys Trp Pro Met
            85   90   95

Gly Gly Ser Gly Val Val Glu Val Pro Phe Leu Leu Ser Ser Lys Tyr
            100   105   110

Asp Glu Pro Ser Arg Gln Val Ile Leu Glu Ala Leu Ala Glu Phe Glu
            115   120   125

Arg Ser Thr Cys Ile Arg Phe Val Thr Tyr Gln Asp Gln Arg Asp Phe
    130   135   140

Ile Ser Ile Ile Pro Met Tyr Gly Cys Phe Ser Ser Val Gly Arg Ser
145   150   155   160

Gly Gly Met Gln Val Val Ser Leu Ala Pro Thr Cys Leu Gln Lys Gly
            165   170   175

Arg Gly Ile Val Leu His Glu Leu Met His Val Leu Gly Phe Trp His
            180   185   190

Glu His Thr Arg Ala Asp Arg Asp Arg Tyr Ile Arg Val Asn Trp Asn
    195   200   205

Glu Ile Leu Pro Gly Phe Glu Ile Asn Phe Ile Lys Ser Arg Ser Ser
    210   215   220

Asn Met Leu Thr Pro Tyr Asp Tyr Ser Ser Val Met His Tyr Gly Arg
225   230   235   240

Leu Ala Phe Ser Arg Arg Gly Leu Pro Thr Ile Thr Pro Leu Trp Ala
            245   250   255

Pro Ser Val His Ile Gly Gln Arg Trp Asn Leu Ser Ala Ser Asp Ile
            260   265   270

Thr Arg Val Leu Lys Leu Tyr Gly Cys Ser Pro Ser Gly Pro Arg Pro

```
                275                   280                   285

Arg Gly Arg Gly Ser His Ala His Ser Thr Gly Arg Ser Pro Ala Pro
    290                   295                   300

Ala Ser Leu Ser Leu Gln Arg Leu Leu Glu Ala Leu Ser Ala Glu Ser
305                   310                   315                   320

Arg Ser Pro Asp Pro Ser Gly Ser Ser Ala Gly Gly Gln Pro Val Pro
                325                   330                   335

Ala Gly Pro Gly Glu Ser Pro His Gly Trp Glu Ser Pro Ala Leu Lys
                340                   345                   350

Lys Leu Ser Ala Glu Ala Ser Ala Arg Gln Pro Gln Thr Leu Ala Ser
                355                   360                   365

Ser Pro Arg Ser Arg Pro Gly Ala Gly Ala Pro Gly Val Ala Gln Glu
    370                   375                   380

Gln Ser Trp Leu Ala Gly Val Ser Thr Lys Pro Thr Val Pro Ser Ser
385                   390                   395                   400

Glu Ala Gly Ile Gln Pro Val Pro Val Gln Gly Ser Pro Ala Leu Pro
                405                   410                   415

Gly Gly Cys Val Pro Arg Asn His Phe Lys Gly Met Ser Glu Asp
                420                   425                   430
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<210>   35
<211>   1224
<212>   DNA
<213>   Homo sapiens

<400>   35
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cctgagggaa cccaggcctc cggggacaag gacattcctg caattaacca agggctcatc  120
ctggaagaaa ccccagagag cagcttcctc atcgagggg acatcatccg gccgagtccc   180
ttccgactgc tgtcagcaac cagcaacaaa tggcccatgg gtggtagtgg tgtcgtggag  240
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cgatggaacc tgagtgcctc ggacatcacc cgggtcctca aactctacgg ctgcagccca  780
agtggcccca ggcccgtgg gagagggtcc catgcccaca gcactggtag gagccccgct  840
ccggcctccc tatctctgca gcggctttg gaggcactgt cggcggaatc caggagcccc  900
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catgggtggg agtcccctgc cctgaaaaag ctcagtgcag aggcctcggc aaggcagcct 1020
cagaccctag cttcctcccc aagatcaagg cctggagcag gtgccccgg tgttgctcag 1080
gagcagtcct ggctggccgg agtgtccacc aagcccacag tcccatcttc agaagcagga 1140
atccagccag tccctgtcca gggaagccca gctctgccag ggggctgtgt acctagaaat 1200
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catttcaagg ggatgtccga agat   1224

<210>   36
<211>   408
<212>   PRT
<213>   Homo sapiens

<400>   36
Ala Pro Leu Ala Ser Ser Cys Ala Gly Ala Cys Gly Thr Ser Phe Pro
1   5   10   15

Asp Gly Leu Thr Pro Glu Gly Thr Gln Ala Ser Gly Asp Lys Asp Ile
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Pro Ala Ile Asn Gln Gly Leu Ile Leu Glu Glu Thr Pro Glu Ser Ser
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Phe Leu Ile Glu Gly Asp Ile Ile Arg Pro Ser Pro Phe Arg Leu Leu
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Ser Ala Thr Ser Asn Lys Trp Pro Met Gly Gly Ser Gly Val Val Glu
65   70   75   80

Val Pro Phe Leu Leu Ser Ser Lys Tyr Asp Glu Pro Ser Arg Gln Val
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Ile Leu Glu Ala Leu Ala Glu Phe Glu Arg Ser Thr Cys Ile Arg Phe
            100   105   110

Val Thr Tyr Gln Asp Gln Arg Asp Phe Ile Ser Ile Ile Pro Met Tyr
        115   120   125

Gly Cys Phe Ser Ser Val Gly Arg Ser Gly Gly Met Gln Val Val Ser
        130   135   140

Leu Ala Pro Thr Cys Leu Gln Lys Gly Arg Gly Ile Val Leu His Glu
145   150   155   160

Leu Met His Val Leu Gly Phe Trp His Glu His Thr Arg Ala Asp Arg
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Asp Arg Tyr Ile Arg Val Asn Trp Asn Glu Ile Leu Pro Gly Phe Glu
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Ile Asn Phe Ile Lys Ser Arg Ser Ser Asn Met Leu Thr Pro Tyr Asp
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Tyr Ser Ser Val Met His Tyr Gly Arg Leu Ala Phe Ser Arg Arg Gly
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Leu Pro Thr Ile Thr Pro Leu Trp Ala Pro Ser Val His Ile Gly Gln
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Arg Trp Asn Leu Ser Ala Ser Asp Ile Thr Arg Val Leu Lys Leu Tyr
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Gly Cys Ser Pro Ser Gly Pro Arg Pro Arg Gly Arg Gly Ser His Ala
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His Ser Thr Gly Arg Ser Pro Ala Pro Ala Ser Leu Ser Leu Gln Arg
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Leu Leu Glu Ala Leu Ser Ala Glu Ser Arg Ser Pro Asp Pro Ser Gly
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Ser Ser Ala Gly Gly Gln Pro Val Pro Ala Gly Pro Gly Glu Ser Pro
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His Gly Trp Glu Ser Pro Ala Leu Lys Lys Leu Ser Ala Glu Ala Ser
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Ala Arg Gln Pro Gln Thr Leu Ala Ser Ser Pro Arg Ser Arg Pro Gly
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Ser Thr Lys Pro Thr Val Pro Ser Ser Glu Ala Gly Ile Gln Pro Val
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Ala Cys Gly Thr Ser Phe Pro Asp Gly Leu Thr Pro Glu Gly Thr Gln
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Ala Ser Gly Asp Lys Asp Ile Pro Ala Ile Asn Gln Gly Leu Ile Leu
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Glu Glu Thr Pro Glu Ser Ser Phe Leu Ile Glu Gly Asp Ile Ile Arg
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Pro Ser Pro Phe Arg Leu Leu Ser Ala Thr Ser Asn Lys Trp Pro Met
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Ile Ser Ile Ile Pro Met Tyr Gly Cys Phe Ser Ser Val Gly Arg Ser
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Gly Gly Met Gln Val Val Ser Leu Ala Pro Thr Cys Leu Gln Lys Gly
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Arg Gly Ile Val Leu His Glu Leu Met His Val Leu Gly Phe Trp His
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Glu His Thr Arg Ala Asp Arg Asp Arg Tyr Ile Arg Val Asn Trp Asn
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Glu Ile Leu Pro Gly Phe Glu Ile Asn Phe Ile Lys Ser Gln Ser Ser
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Asn Met Leu Thr Pro Tyr Asp Tyr Ser Ser Val Met His Tyr Gly Arg
225                 230                 235                 240

Leu Ala Phe Ser Arg Arg Gly Leu Pro Thr Ile Thr Pro Leu Trp Ala
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Pro Ser Val His Ile Gly Gln Arg Trp Asn Leu Ser Ala Ser Asp Ile
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Thr Arg Val Leu Lys Leu Tyr Gly Cys Ser Pro Ser Gly Pro Arg Pro
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C&R-107

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<213>    Artificial Sequence

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<223>    GeneRacer 3' nested primer

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<223>    78836-GR1nest-3' primer

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C&R-107

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<220>
<223>    SP6 primer

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